

CLAIMS:

1. A data processing device (10) for registration of a first image (A) of an object, which first image was obtained with a first imaging method (1), having a second image (B) of the object, which second image was obtained with a second imaging method (2) different from the first imaging method, wherein the data processing device is equipped for executing
5 the following steps:
 - a) Generating a first transformed image (A') from the first image (A), in which characteristic image features of the first imaging method (1) are reduced and/or characteristic image features of the second imaging method (2) are intensified;
 - b) Generating a second transformed image (B') from the second image (B), in
10 which, optionally characteristic image features of the second imaging method (2) are reduced and optionally, characteristic image features of the first imaging method (1) are intensified;
 - c) Registration of the transformed images (A', B').
2. A data processing device as claimed in claim 1, characterized in that the
15 imaging methods comprise the application of different modalities, wherein one of the modalities is a computer tomography (1), an X-ray projection, a magnetic resonance imaging method, an ultrasound method (2), an X-ray fluoroscopy or a CT- fluoroscopy and wherein the image (A) obtained thereby is two dimensional or three dimensional.
- 20 3. A data processing device as claimed in claim 1, characterized in that the imaging methods were generated with the same modality with different imaging conditions.
4. A data processing device as claimed in claim 1, which is arranged for executing a feature-based registration of the transformed images (A', B').
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5. A data processing device as claimed in claim 1, which is arranged for segmenting object areas with different material composition in at least one of the images (A).

6. A data processing device as claimed in claim 1, which is arranged for masking areas of the transformed images (A'), in which at least one of the imaging methods (2) does not supply reliable information.
- 5 7. A data processing device as claimed in claim 1, which is arranged for considering the positions measured with the help of a position-measuring apparatus and/or a calibration of the images (A, B) during the registration.
8. A data processing device as claimed in claim 1, which is arranged for using
10 the flexible registration method.
9. A process for registration of a first image (A) of an object, which first image was obtained with a first imaging method (1), with a second image (B) of the object, which second image was obtained with the second imaging method (2), different from the first
15 imaging method, comprising the following steps:
- a) Generating of a first transformed image (A') from the first image (A), in which characteristic image features of the first imaging method (1) are reduced and/or characteristic image features of the second imaging method (2) are intensified;
- b) Generating of a second transformed image (B') from the second image (B), in
20 which optionally characteristic image features of the second imaging method (2) are reduced and optionally characteristic image features of the first imaging method (1) are intensified;
- c) Registration of the transformed images (A', B').
10. A process as claimed in claim 9, characterized in that, the steps a), b) and c) are repeated many times with variation of at least one of the transformed images (A'), in order to maximize a degree of similarity between the transformed images (A', B').